

AMENDMENTS TO THE DRAWINGS

Applicant is submitting herewith two (2) sheets of replacement drawings, which include FIGS 1 and 8.

Attachment: Replacement Sheets

REMARKS

Claims 1-11 and 14-19 are all the claims pending in the application. By this Amendment, Applicant adds claims 18 and 19, which are clearly supported throughout the specification.

I. Summary of the Office Action

In this Office Action, the Examiner objected to the drawings and the specification for minor informalities. The Examiner further found new grounds for rejecting claims 1-11 and 14-17.

II. Objection to the Drawings

The Examiner incorrectly asserts that the replacement drawings filed August 25, 2006 did not contain the caption “Replacement Sheet” in the top margin. Applicant respectfully submits that the figures filed on August 25, 2006 did contain the above-noted caption. Applicant respectfully resubmits a copy of the replacement drawings (with the above-noted caption) as filed on August 25, 2006. Applicant respectfully requests the Examiner to indicate acceptance of the drawing.

III. Objection to the Specification

The specification is objected to as failing to provide proper antecedent basis for the “basic type objects,” as set forth in claim 4 (*see* page 3 of the Office Action). Applicant respectfully disagrees and traverses this objection in view of the following comments.

The specification provides ample support for the basic type objects. For example, page 12, lines 2 to 6 of the specification recites: “a system configuration tools is provided, which is already registered with some objects, as basic types, having high frequencies of use in the

devices in the control system, the system configuration tool for selecting from the registered basic types an object to be actually used in the control system.” However, to further prosecution of the above-identified application, Applicant amends the specification to set forth the antecedent bases verbatim. No new matter is being added.

In view of the above, Applicant respectfully requests the Examiner to withdraw this objection to the specification.

IV. Claim Rejection under 35 U.S.C. § 112, second paragraph

Claim 4 is rejected under 35 U.S.C. § 112, second paragraph. Specifically, the Examiner contends that the term “high frequency” is indefinite (*see* page 3 of the Office Action). Applicant respectfully traverses these grounds of rejection in view of the following comments.

“Breadth of a claim is not to be equated with indefiniteness. *In re Miller*, 441 F.2d 689, 169 USPQ 597 (CCPA 1971)” MPEP § 2173.04. In the present case, one of ordinary skill in the art would readily understand what is meant by “high frequency use” *i.e.*, an object used frequently. For example, high frequency use may be an object accessed a predetermined number of times within a predetermined period of time (setting of the time and numbers of access may depend on a type of object, for example). In another example, high frequency use may be only the number of times the object is accessed. In other words, one of ordinary skill in the art would readily understand what is meant by “high frequency use.” In view of the foregoing, the withdrawal of this rejection is proper and necessary.

V. Prior Art Rejections

Claims 1-6, 8-11, 14, and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the Background Art section of the originally filed specification (pages 1-10), (hereinafter “APA”) in view of U.S. Patent No. 6,067,477 to Wewalaarachchi et al. (hereinafter “Wewalaarachchi”). Applicant respectfully traverses these grounds of rejection in view of the following comments.

One of ordinary skill in the art would not have and could not have combined the APA with Wewalaarachchi. The Examiner’s proposed combination is unworkable. The APA relates to generating programs for the control and monitoring of machines such as generating the display program, control program, communication program, and supervisory programs (*see e.g.*, Fig. 8 and pages 1-5 of the specification). For example, the APA is concerned with CAD types systems *i.e.*, systems used for physical layout in engineering or design of the system.

Wewalaarachchi, on the other hand, relates to SCADA applications (*see* Abstract, col. 2, lines 3 to 27). That is, Wewalaarachchi relates to a data acquisition system. It is not a program development system. In other words, in Wewalaarachchi, the already generated supervisory and monitoring programs share real data coming from the field devices (col. 3, lines 17 to 56 and col. 7, lines 41 to 67). In other words, Wewalaarachchi does not disclose or suggest sharing variable names and data types for creating control and monitoring programs. It has nothing to do with this function at all.

Accordingly, one of ordinary skill in the art could not have modified the APA with the disclosure of Wewalaarachchi. In the APA, the objects are not yet defined *i.e.*, no variable name and attributes exist. Accordingly, in the APA, they need to be shared amongst various

generation tools. In Wewalaarachchi, if the object is not defined, there will be no service agent 304 provided for obtain real data for the object. In other words, in Wewalaarachchi, the objects are already defined in the applications (*i.e.*, presentation cells) and the service agents simply pull real data (values) into the already existing objects.

By way of an analogy, when creating a software program, variables and objects are defined *e.g.*, int array [x][y] - defines or creates an integer array of x rows and y columns in C language generation tool. Similarly, in the APA, generation tools are used to define objects *i.e.*, variables and their attributes. When the program is executed, values can be assigned to the variable *e.g.*, array[x-3][y-2] = (5, 5). That is, during execution of the program, values may be assigned to the array. Similarly, in Wewalaarachchi, values are assigned to existing objects.

As illustrated by the above provided analogy, the proposed combination is unworkable. Sharing real data (values) as disclosed in Wewalaarachchi would not provide for the sharing of the object definitions such as the ones disclosed in the APA. If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), MPEP § 2143.01.V.

Moreover, the Examiner contends that one of ordinary skill in the art would have been motivated to combine the two references “in order to provide a unified, hierarchical object model for all of the data received from the underlying devices and systems” (*see* page 5 of the Office Action). However, Wewalaarachchi has nothing to do with defining objects (*i.e.*, variables and attributes) for the generation tools. One of ordinary skill in the art confronted with the problem

of sharing object definitions between various generating tools would not have been motivated to turn to Wewalaarachchi which relates to the sharing of the real data (values) coming from the underlying devices and systems. In short, one of ordinary skill in the art would not have and could not have combined the two references in the manner suggested by the Examiner.

Furthermore, the combined disclosures of the APA and Wewalaarachchi do not disclose or suggest at least the unique features of the independent claims 1, 5, and 10. Independent claims 1, 5 and 10 are devoted to a programming device and method for a set of program generation tools. For example, claim 1 recites: “a data sharing unit adapted to interface with said group of program generation tools to share a variable name and attribute data definitions corresponding to an object of each of said plurality of devices, wherein the objects are shared by said program generation tools for generating the programs by transferring the variable name and the attribute data definitions corresponding to the object into each respective program generation tool that shares the object.”

The Examiner acknowledges that the APA does not disclose or suggest the data sharing unit as set forth in claim 1. The Examiner, however, contends that col. 9, lines 35 to 40 of Wewalaarachchi cure the deficiencies of the APA. Applicant respectfully disagrees.

In the above-noted portion of Wewalaarachchi, it is disclosed that data is published in the form of name and value. However, there is no disclosure or suggest of sharing a variable name and attribute data definitions corresponding to an object. In Wewalaarachchi, it is the data values that are transferred into the respective presentation cells and not the names (e.g., col. 12, lines 12 to 15 of Wewalaarachchi, the object names are not shared at least because the name

resolution is performed to access data in the object server). Furthermore, as explained above, in Wewalaarachchi, it is the actual values (real data) that is being shared and not the definitions attributes of the objects.

For at least these exemplary reasons, claims 1, 5, and 10 are patentable over the combined disclosure of the APA and Wewalaarachchi, which lack transferring the variable name and attribute data definitions corresponding to the object. Furthermore, the proposed combination is unworkable and one of ordinary skill in the art would not have been motivated to combine the APA and Wewalaarachchi. Claims 2-4, 6, 8, 9, 11, 14, and 15 are patentable at least by virtue of their dependency.

In addition, dependent claim 3 recites: “an object data definition unit adapted to perform data definition and data modification of the objects shared in the data sharing unit...” The Examiner acknowledges that the APA does not disclose or suggest the above-quoted unique features of claim 3. The Examiner, however, contends that Wewalaarachchi cures the deficient disclosure of the APA. Specifically, the Examiner contends that col. 13, lines 28-33 of Wewalaarachchi disclose the above-quoted unique features of claim 3 (*see* page 6 of the Office Action). Applicant respectfully disagrees.

Col. 13, lines 28 to 33 of Wewalaarachchi recites:

The service agent 304 notifies 709 each of the presentation cells 302 which subscribe to the particular data object that was updated, and each of these presentation cells 302 reads 711 the updated value from the replicated data store 209, and updates its graphical representation of the data accordingly. This data flow is shown by the solid connection lines.

In the above-quoted passage of Wewalaarachchi, there are no data definition. Wewalaarachchi simply discloses notifying presentation cells of user application when a value of the data has been updated. In short, Wewalaarachchi does not cure the deficient disclosure of the APA in that it too fails to disclose or suggest data definitions. For at least these additional exemplary reasons, claim 3 is patentable over the APA in view of Wewalaarachchi.

In addition, dependent claim 8 recites: “when an object referenced by a first program generation tool from the group of program generation tools is changed by a second program generation tool from the group of program generation tools, the first program generation tool is notified of the changed object.” The Examiner acknowledges that the APA does not disclose or suggest the unique features of claim 8. The Examiner, however, contends that Wewalaarachchi cures the deficient disclosure of the APA (*see* pages 7-8 of the Office Action). Applicant respectfully disagrees.

In Wewalaarachchi, there is no disclosure or suggestion that when data is changed in one presentation cell, another presentation cell is updated. In Wewalaarachchi, the data is actual real data that is obtained from the field devices and is stored in the object server 206. In other words, the presentation cells (alleged generation tools) do not update the data in the object server.

For at least these additional exemplary reasons, claim 8 is patentable over the APA in view of Wewalaarachchi.

Dependent claim 14 further recites: “the data sharing unit is adapted to download the same object name and the same object attributes to every program generation tool that shares the object and wherein, when the object name and the object attributes are downloaded into one of

the program generation tools, access to the object name and the object attribute data is allowed for other program generation tools.”

The APA, as acknowledged by the Examiner, does not disclose or suggest the above-quoted unique features of claim 14. Wewalaarachchi does not cure the above identified deficiencies of the APA. The portion of Wewalaarachchi cited by the Examiner (*see* page 9 of the Office Action) is unrelated to the presentation cells (alleged generation tools) and as such clearly fails to disclose or suggest downloading same object name and object attributes to every presentation cell that share the object. For at least these additional exemplary reasons, claim 14 is patentable over the APA and Wewalaarachchi.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the APA and Wewalaarachchi in view of “Linkers & Loaders” by Levine (hereinafter “Levine”). Applicant respectfully traverses this rejection in view of the following comments.

Claim 7 depends on claim 5. Claim 5 is patentable over the combined teachings of the APA and Wewalaarachchi. Levine is only cited for its teaching of detection of an overlap (*see* page 10 of the Office Action) and as such fails to cure the deficiencies in the teachings of the APA and Wewalaarachchi. Accordingly, claim 5 is patentable over the combined teachings of the APA, Wewalaarachchi, and Levine. Claim 7 is patentable at least by virtue of its dependency on claim 1.

Claims 16 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the APA and Wewalaarachchi in view of U.S. Patent No. 5,734,902 to Atkins et al. (hereinafter “Atkins”). Applicant respectfully traverses this rejection in view of the following comments.

Claims 16 and 17 depend on claim 1. It was already demonstrated that the APA and Wewalaarachchi do not disclose or suggest the unique features of claim 1. Atkins does not cure the above-identified deficiencies of the APA and Wewalaarachchi. Accordingly, claim 1 is patentable over the APA, Wewalaarachchi, and Atkins. Claims 16 and 17 are patentable at least by virtue of their dependency on claim 1.

In addition, the Examiner contends that one of ordinary skill in the art would have been motivated to combine Wewalaarachchi and Atkins to “use a data structure to store information in order to promote efficiency and quality of service (see ‘477 [Wewalaarachchi] column 13 lines 40-44)” (see page 11 of the Office Action). It is respectfully noted that Wewalaarachchi already disclose a data structure that provides an efficient and high quality service (col. 13, lines 40 to 44 “reducing overhead associated with the notification mechanism”). This motivation, however, does not explain why one of ordinary skill in the art would have modified the data structure of Wewalaarachchi with the data structure of Atkins.

Furthermore, Atkin’s used-by table is of no use to the system of Wewalaarachchi. In Wewalaarachchi, the data is coming from the field devices, is stored in an object server, and is then provided to various presentation cells. Since the presentation cells of Wewalaarachchi do not provide the data to the object server, the used-by table is unnecessary. That is, since the data is only stored in the object server, there is no problem of concurrency of access. Multiple presentation cells may access data at the same time. In other words, the used-by table of Atkins would not improve efficiency and quality of service of the combination of the APA and Wewalaarachchi. In short, one of ordinary skill in the art would not have and could not have

combined the three references in the manner suggested by the Examiner. For at least these additional exemplary reasons, claims 16 and 17 are patentable over the APA, Wewalaarachchi, and Atkins.

VI. New Claims

In order to provide more varied protection, Applicant adds claims 18 and 19. Claims 18 and 19 are patentable at least by virtue of their dependency on claim 1 and 10, respectively.

VII. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. **If any points remain in issue, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.**

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


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